

POSITIONS AND AREAS OF SUN SPOTS

[Communicated by Capt. C. S. Freeman, Superintendent U. S. Naval Observatory. Data furnished by Naval Observatory, in cooperation with Harvard, Yerkes, and Mount Wilson Observatories. The differences of longitude are measured from central meridian, positive west. The north latitudes are plus. Areas are corrected for foreshortening and are expressed in millions of sun's visible hemisphere. The total area, including spots and groups, is given for each day in the last column]

Date	Eastern standard civil time	Heliographic			Area		Total area for each day
		Diff. long.	Longitude	Latitude	Spot	Group	
1929							
Apr. 1 (Naval Observatory).	h. m. 13 56	° -66.0 -42.5 +35.0 +56.0 +57.5	° 97.1 120.6 198.1 219.1 220.6	° -10.0 -2.5 +8.5 +10.5 -13.0	386 34 19 201 46		686
Apr. 2 (Naval Observatory).	11 46	-54.5 -29.5 +49.0 +66.5 +70.5	96.6 121.6 200.1 217.6 221.6	-10.0 -2.5 +8.5 +10.5 -13.5	370 19 9 123 56		577
Apr. 3 (Naval Observatory).	11 44	-47.5 -41.5 +58.5 +79.0	90.4 96.4 196.4 216.9	+22.5 -9.5 +8.5 +11.0	15 282 46 108		431
Apr. 4 (Naval Observatory).	11 28	-48.0 -31.0 -28.5 +70.0	76.9 93.9 96.4 194.9	-8.5 -17.5 -9.5 +8.5	9 9 231 93		342
Apr. 5 (Naval Observatory).	12 50	-31.0 -15.0 -3.5	79.9 95.9 107.4	-8.5 -10.0 -10.5	170 185 15		370
Apr. 6 (Naval Observatory).	11 38	-17.5 -4.5 -2.5 +11.0	80.9 93.9 85.9 109.4	-8.5 -17.5 -10.0 -11.5	355 40 154 9		558
Apr. 7 (Naval Observatory).	11 27	-5.5 +10.5 +10.5	79.7 95.7 95.7	-9.0 -17.5 -10.5	443 46 123		617
Apr. 8 (Naval Observatory).	11 35	+8.0 +24.0 +24.0	80.0 96.0 96.0	-9.0 -17.0 -10.0	432 19 123		574
Apr. 9 (Naval Observatory).	12 7	-76.5 -32.0 +22.5 +38.5	342.0 26.5 81.0 95.0	+6.5 -14.0 -8.5 -10.5	154 15 432 62		663
Apr. 10 (Mount Wilson).	18 30	-63.0 -18.0 +3.0 +39.0 +52.0 +65.0	338.8 23.8 44.8 80.8 93.8 106.8	+7.0 -15.0 -20.5 -10.0 -10.5 -12.0	361 4 4 558 57 75		1,059
Apr. 11 (Harvard).	11 51	-70.0 -50.5 +14.5 +49.5 +63.5 +75.0	313.5 342.0 47.0 82.0 96.0 107.5	+8.5 +6.5 -20.0 -9.5 -11.0 -12.0	259 405 132 763 71 216		1,846
Apr. 12 (Naval Observatory).	11 48	-68.5 -38.0 +26.0 +63.0	312.6 341.1 45.1 82.1	+8.5 +6.0 -21.0 -9.5	123 309 216 401		1,349
Apr. 13 (Naval Observatory).	11 34	-77.5 -54.0 -25.5 +39.0 +76.0	288.5 312.0 340.5 45.0 82.0	-9.5 +8.0 +5.5 -20.5 -10.0	170 139 262 170 324		1,065
Apr. 14 (Naval Observatory).	12 30	-64.0 -39.5 -12.0 +53.0 +62.0	288.3 312.8 340.3 45.3 54.3	-9.0 +8.0 +5.5 -20.0 -10.0	185 123 262 170 77		817
Apr. 15 (Harvard).	16 41	-50.0 -44.5 -20.5 -7.5	287.0 292.5 316.5 329.5	-6.5 -9.0 +8.5 +5.0	24 170 243 274		711
Apr. 16 (Mount Wilson).	13 0	-35.0 -16.0 +16.0 +78.0	290.6 309.6 341.6 41.6	-9.0 +9.0 +5.0 -20.0	124 157 252 33		566
Apr. 17 (Mount Wilson).	12 0	-22.0 -1.0 +29.0	290.9 311.9 341.9	-8.0 +9.0 +5.0	76 138 265		479
Apr. 18 (Naval Observatory).	11 30	-9.5 +6.5 +12.5 +42.5	290.5 306.5 312.5 342.5	-8.0 +6.0 +9.0 +6.0	62 62 123 247		494

POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard civil time	Heliographic			Area		Total area for each day
		Diff. long.	Longitude	Latitude	Spot	Group	
1929							
Apr. 19 (Naval Observatory).	h. m. 11 32	° +3.5 +22.5 +26.5 +56.5	° 290.3 309.3 313.3 343.3	° -7.5 +5.5 +9.0 +6.0	62 247 108 309		726
Apr. 20 (Naval Observatory).	11 32	-32.0 +8.0 +17.5 +36.0 +39.5 +69.0	241.6 281.6 291.1 309.6 313.1 342.6	+9.5 -10.0 -7.5 +5.5 +9.0 +6.0	46 40 31 401 123 278		919
Apr. 21 (Naval Observatory).	11 10	-18.5 +31.0 +50.5 +52.5 +83.0	242.1 291.6 311.1 313.1 343.6	+9.0 -7.0 +5.5 +9.0 +5.5	62 31 540 123 185		941
Apr. 22 (Naval Observatory).	15 12	-17.5 -1.5 +243.7 +45.5 +65.5 +67.0	227.7 237.6 290.7 310.7 312.2	+13.5 +8.5 -6.5 +8.5 +9.0	6 28 12 602 123		771
Apr. 23 (Naval Observatory).	11 47	+11.0 +57.0 +78.0 +80.0	244.8 290.8 311.8 313.8	+8.0 -6.5 +5.5 +9.0	31 15 509 123		678
Apr. 24 (Naval Observatory).	11 49	-84.0 +17.0 +23.0 +87.5	136.6 237.6 243.6 308.1	+13.0 -6.5 +8.5 +6.0	185 25 154 185		549
Apr. 25 (Naval Observatory).	16 24	-67.5 +40.5	137.3 245.5	+13.5 +8.5	154 355		509
Apr. 26 (Naval Observatory).	11 36	-58.0 +52.5	136.3 246.8	+13.0 +8.5	170 309		479
Apr. 27 (Naval Observatory).	11 36	-85.0 +61.5 +66.5	96.1 242.6 247.6	-9.0 -5.5 +8.5	154 170 247		602
Apr. 28 (Mount Wilson).	17 30	-74.0 -66.0 -28.0 +78.0 +85.0	90.6 98.6 136.6 242.6 249.6	-9.0 -1.0 +13.0 -7.0 +9.0	407 10 222 15 37		691
Apr. 29 (Naval Observatory).	11 42	-66.0 -62.0 -56.5 -17.5	88.6 92.6 98.1 137.1	-20.0 -8.5 -1.5 +14.5	62 278 77 108		525
Apr. 30 (Naval Observatory).	11 42	-54.5 -48.5 -40.0 -4.5	86.9 92.9 101.4 136.9	-21.0 -9.0 -1.5 +14.5	216 231 139 62		648
Mean daily area for April.							

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR APRIL, 1929

[Data furnished through the courtesy of Prof. W. Brunner, University of Zurich, Switzerland]

April, 1929	Relative numbers	April, 1929	Relative numbers	April, 1929	Relative numbers
1	47	11	(1)	21	
2	51	12	73	22	47
3	46	13	1 59	23	48
4	32	14	71	24	36
5	15		2 59	25	1 40
6	M 3 2 63	16	62	26	44
7	2 54	17	M 2 3 47	27	43
8	4 61	18	2 50	28	1 36
9	1 65	19	58	29	E 3 3 38
10	M 3 76	20	E 3 62	30	53

Mean (27 days) = 52.6.

¹ Entrance of large or average-sized center of activity on the east limb.

² Passage of an average-sized group through the central meridian.

³ New formation of a large or average-sized center of activity. E: on the eastern part of the sun's disk; W: on the western part; M: in the central zone.

⁴ Passage of a large group through the central meridian.